



1

THE BOTANICAL FINE ART WEEKLY.  
Subscription Price \$30.00 per Annum · Single Copies \$1.00



# WILD FLOWERS OF AMERICA



Vol. I., No. I.

PUBLISHED WEEKLY BY G. H. BUEK & CO.

May 15th, 1894.

203 Broadway, New York.

ENTERED AT NEW YORK POST OFFICE, AS SECOND CLASS MATTER.

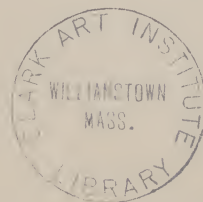


## PUBLISHERS' NOTES.



THE Publishers of "The Wild Flowers of America" feel gratified at the magnificent reception with which their efforts have been greeted. Before a single announcement regarding it was made in the press, favorable comment whispered from artists and botanists to a limited circle had so prepared the way for its reception that the very first view of the plates resulted in the placing of an unsolicited order with the publishers for upwards of one hundred thousand copies. Everybody of reflection and discernment now says "The Wild Flowers of America" in popular form seems to be just the thing the world was waiting for. The development of the scheme was beset with many obstacles and trials which now serve only to enhance the pleasure of success. After years of unwearied toil, careful research and immense expenditure, there has been gathered the material for presenting to the world a comprehensive work on the "Wild Flowers of America," embracing colored plates and descriptions of flowers of every State and Territory in the Union. The aim originally was to publish the work in several massive volumes for public institutions, universities and laboratories, but this intent has for a short period been widened at the solicitation of some of the principal educators of the country. When the material had been examined by many of the leaders in educational work, and its comprehensiveness thoroughly appreciated, the publishers consented as much for the sake of giving the world a real knowledge of the amazing beauty, variety and number of the wild flowers of America as for the fame it might bring to the enterprise to give for a very limited time an edition on a popular basis. It is for this reason that an opportunity is now presented, although only for a very short space of time, it is true, of procuring "The Wild Flowers of America" at a merely nominal cost. At the earnest solicitation of eminent botanists the greatest care has been exercised in the production of this work, to avoid the extravagances of color and grouping into which publishers of flower pictures are so often tempted. The motive of the work is to present the wild flowers of America as they are, as we see them, as we ought to know them and ought to remember them, preserving with the strictest truth the essential characteristics of each specimen; in short, to give the flowers so plainly that any nursery child will know the flower by the picture and the picture by the flower. Embellishment of design or artist's license in color would defeat this aim. The work will be published in parts, each part to contain not less than sixteen colored plates. Each plate will be numbered to correspond with an elaborate index, to which each owner of all the parts will be entitled without extra cost. The later parts will contain, in addition to the plates, several wonderfully interesting chapters giving curious facts about the flowers represented in the different portions of the work, the whole forming a magnificent library attraction. Subscribers are cautioned against the danger of missing any of the sections, and to this end persons intending to be absent from the city for any length of time should arrange with some friend or employee to secure for them the parts as they are issued. The demand is so enormous that it seems impracticable to guarantee to any subscriber the supply of any portion missed through neglect. While the every-day public seem bent on absorbing the whole edition, yet the hope has all along been cherished that some special provision would be made to the end that in the scramble to secure copies school teachers and school children would have at least an equal opportunity and not get jostled aside by the crowd. The enormous educational value of the collection will suggest the wisdom of seeing that every child in America has an opportunity to become possessed of it. The original owners will feel too, no matter how great may be the number distributed, the best of all its objects will have been defeated if the teachers and school children are elbowed out of their place in the general struggle. While the collection will be prized in private libraries all over the land the opportunity to familiarize the youth of the nation with the "Wild Flowers of America" is of paramount importance.

The technical names given in this publication are those decided upon by a committee of the American Association for the Advancement of Science. They are here presented to the public for the first time, and will duly find place in the general literature of botany.





✿ BOTANICAL FINE ART WEEKLY ✿

# WILD FLOWERS OF AMERICA



PUBLISHED BY

G.H. BUEK & CO.

• NEW YORK •

COPYRIGHT 1894. BY G. H. BUEK & CO., NEW YORK.

FLOWERS OF EVERY STATE IN THE AMERICAN UNION

✿ ——— BY A CORPS OF SPECIAL ARTISTS AND BOTANISTS ——— ✿

APPROVED BY THE LEADING ARTISTS OF AMERICA AND EUROPE  
AND ENDORSED BY UNIVERSITY BOTANISTS OF BOTH CONTINENTS.





LOWLY · SPRIGHTLY · LITTLE · FLOWER ·  
· TELLING · OF · A · BRIGHTER · BLOOM ·  
· BURSTING · IN · A · SUMMER · HOUR ·  
· FROM · THY · WINTER · TOMB ·

PATTERSON

Maud Humphrey - 1894 -

# INTRODUCTION



EMERSON remarks in his Essay on Nature that, were the stars to shine but once in a thousand years, men would preserve for many generations the remembrance of the city of God which had been shown. He might have said the same thing of the flowers, which are the "stars that in earth's firmament do shine." Did no blossom brighten the world save once in a thousand years, the memory of that one year would be cherished from generation to generation down through the ages. With what delight, what awe, would man regard each flower, in meadow, moor or glade, as for the first time it stood before him, like Ruth amid the golden corn, to charm with its fresh beauty his soul, awestruck with the dull things of life! His idea of the Creator, his whole soul, would expand with each unfolding bud, his hopes be brightened and his fears assuaged by the radiant loveliness of the new creation, and his life be made redolent with the delicate and ravishing odors for the first time floating upon the tremulous breeze.

But the stars keep their appointed vigils every night and by day the flowers unfold their blossoms in the sunny wilds. From one end of this vast continent to the other, which embraces every climate from that of the frozen north to the tropics, the earth is carpeted with multitudinous flowers, each coming in its due season, living its pure life, and passing away, unknown, alas, to millions who know not what they miss. From the stunted pine, bending beneath its burden of almost perennial snows toward the arctic circle, to the graceful palmetto, flourishing beneath an almost vertical sun; from the slender poppy which braves the boreal climate of bleak coasts and dreary barrens trodden only by the Esquimaux, to the delicate Southern orchid daintily clinging to oak or cypress, the continent of North America affords such a variety of plants that not even the botanist can hope to know them all. Dr. Asa Gray, the famous American botanist, devoted half a century to the classification of the plants of North America, without bringing his labors to an end.

It is in some respects surprising, but none the less true, that while man is surrounded in North America by a greater variety of flowers than are to be found in any other part of the globe, he is nevertheless, in most instances, like the idols mentioned in Scripture, which have eyes yet see not. The cultivated flowers of gardens and hothouses are known to some whose tastes and wealth enable them to make a hobby of this branch of floriculture, but those whose duties are too exacting to permit them such pleasures do not sufficiently realize that nature has planted for their delight myriads of wild beauties compared with whose loveliness the hothouse plant pales and sinks gradually out of mind. Nature asks in return for all her toil nothing but that we should keep our eyes open. The dome of



her conservatory is the boundless azure, and the sun itself supplies her with its warmth and light. A century is not too long for her to devote to the development of a specimen, yet she will bend her whole energies to the perfection of a blossom which fades an hour after maturity. No bolt, no bar, no artificial impediment shuts out the poorest among men from the enjoyment of her floral creations. Surely so generous a giver is entitled to man's appreciation of her bounty!

One requires no special education to enjoy the more striking charms of American wildernesses. The dullest hind revels in those deep recesses, where, veiled in foliage, some wild, shy rivulet steals with timid music through breathless caves of verdure; in gulfs where feathered crags rise like castle walls, where the noonday sun pierces with keen ray athwart the torrent, and the mossed arms of fallen pines cast wavering shadows on the illumined foam. With what awe do we look upon patriarch trees that have been hurled headlong by the storm to dam the raging stream with their forlorn and savage ruin, and how deeply is the soul impressed in the stern depths of immemorial forests, dim and silent as a cavern, columned with innumerable tree trunks, each like an Atlas upholding its world of leaves, and sweating perpetual moisture down its dark and channeled rind. How delicious it is to float upon the calm bosom of some sluggish river or pellucid lake, among the sinuous reeds and gorgeous water lilies, startling perhaps the wild duck from its haunts, and noting the flashing eddies made by the darting fish. And with what lofty, unspeakable thoughts we stand amid the southern cypress forests or the "gospelizing glooms" of the live oaks, where, perhaps, the crimsoning Virginia creeper fills the wood with sudden flashes of color. "In the woods is perpetual youth." There we learn not less our greatness than our littleness; there the voice of flattery and censure is hushed, and there we realize our true place in the universe.

But though the influence of the wilderness makes itself felt in even the most heedless soul, it is only the lover of plant life who is able to enjoy nature to the full. As the lover of music is charmed by harmonies which escape the ear content with a simple air, so he who knows the wild flowers of America, not necessarily as a botanist but as a friend, finds a newer, grander harmony among the woods, and sees in meadow and marsh and sandy waste beauties, marvelous beauties, which escape the ignorant or indifferent observer.

The green and glistening mosses hiding the rough ground, mantling the rough rocks and concealing under their kindly shroud the dead and decaying tree trunks, the sudden stumbling upon some bed of lilies of the valley that uplift their graceful bells, the sight of a nest of violets, like some bit of fallen sky, or the host of trilliums which we may encounter in some quiet vale, all these lend a charm to every ramble.

It is to familiarize Americans with their incomparable wild flowers in detailed form and color, that this work was designed. Ever since its first pages were commenced, the publishers have been earnestly urged by leading botanists to resist all temptation to make fanciful pictures, as is so generally done in commemorative cards. Great stress was laid on the advisability of giving each flower just as it grows, just as it looks in nature. Only by this method could it have its highest educational value. The success of the work proves the value of the advice, for it is everywhere being received with a most cordial welcome. The parts complete will embrace several hundred plates treating of the flowers of every State and Territory in the Union, and will form a volume of sterling value. If to a better appreciation of the wondrous wealth of wild and native bloom on this continent, this work brings the people of America, the publishers will feel it has achieved a purpose not to be despised.



— 1 —  
LUPINUS PERENNIS.  
PERENNIAL LUPINE.  
JUNE—JULY.



— 2 —  
CYPRIPEDIUM PUBESCENS.  
YELLOW LADY'S SLIPPER.  
MAY.



PLATE 1.

PERENNIAL LUPINE. LUPINUS PERENNIS. (PEA FAMILY.)

*Perennial; roots stoloniferous; stems erect, branching or strict, more or less hairy; leaves hairy, long-petioled, palmate, leaflets usually eight or ten; flowers in a long, terminal raceme, large, showy blue or purple on spreading pedicels; corolla papilionaceous or butterfly-shaped; pods hairy.*



HE perennial lupine is a handsome and conspicuous plant. The stems grow in clumps and are from ten to eighteen inches high. The long wand-like racemes have a peculiar and striking appearance. The very pretty blue and purple flowers entitle the lupine to a high place among our more beautiful wild flowers. A form occasionally occurs in which the flowers are pure white.

The lupines are represented in Eastern North America by two species. One, the plant figured here, is native from Canada to Florida. The other, *Lupinus villosus*, is a native of the sandy pine-barrens of the Southern States. It has leaves of but a single leaflet. The pods are strikingly conspicuous, being covered with long, silvery hairs. In the West, on the other hand, there are numerous species, and it is often quite difficult to tell one from the other. All are very ornamental plants.

The name lupinus is from the Latin *lupus*, a wolf, because these plants are supposed to exhaust or devour the soil. The charge can hardly be brought against our species, which confine themselves to poor, sandy soil. Wood says of our plant: "It is often called sun-dial, from the circumstance of its leaves turning to face the sun from morning till night."

PLATE 2.

LARGER YELLOW LADY'S-SLIPPER. CYPRIPEDIUM PUBESCENS. (ORCHIS FAMILY.)

*Perennial; root a cluster of rather thick fibres; stem erect, one or two feet high, rather hairy, leafy; leaves many-nerved, ovate, clasping, acute, pubescent; flower solitary, rarely two or three, at summit of stem; lip large, boatshaped, rather pale yellow; petals brown, twisted.*



NE of the oddest and one of the fairest of our flowers. The plants usually grow in groups of two or three. When one first comes upon them, in the shade of a deep forest, standing erect beneath some tree, one is sure to be surprised as by the discovery of hidden gold. The yellow flower often has the look of a ray of sunlight upon a leaf. The lip is outstretched, as if in greeting. This, with the twisted petals standing out at right angles to it, gives a wide-awake effect to the flower, and shows it near of kin to the pampered darlings of the conservatory—the foreign orchids.

To the imaginative there is something unearthly, fairy-like, about the lady's-slipper. The lip seems fashioned for the tiny foot of some small, elfin woman. One might fancy spirits of the woodland holding their summer revels here. Mayhap some fairy Cinderella has lost her slipper, unnoticed by the prince!

The large yellow lady's-slipper is to be met with on rich, wooded hillsides. With it is often found the small yellow lady's-slipper, which has a smaller flower of a brighter yellow, and with a slight fragrance. Both species occur in Canada and in the Eastern States. They flower in May and June. *Cypripedium* is derived from two Greek words and means "Venus' buskin"—a pretty name, truly. The specific name refers to the hairiness.





— 3 —  
 IRIS VERSICOLOR.  
 BLUE FLAG.  
 JUNE.



— 4 —  
 LONICERA CILIATA.  
 FLY-HONEYSUCKLE.  
 MAY.



PLATE 3.

BLUE FLAG. IRIS VERSICOLOR. (IRIS FAMILY.)

*Perennial, whole plant smooth; rootstocks contracted at the nodes; stems rather stout; leaves quite long, equitant, mostly clustered at the base of the stem; flowers on short peduncles, large, blue; the three outer divisions of the perianth variegated with yellow, spreading.*



BLUE FLAG is one of those hardy flowers that do not hide their beauty in the darkness of woods, but parade it, as if conscious of it, in the broad light of open meadows. We may well forgive a certain lack of modesty in so handsome a plant. None of the cultivated flags can surpass this American species in beauty and grace of form. Some of our native species have the petals prettily bearded, but in the blue flag, they are naked.

Iris versicolor grows from the northern boundary south to the Gulf. It is quite a common plant throughout its range, probably the most abundant species of iris in North America. It is to be found in wet meadows and at the margins of ponds, opening its showy flowers in May or June. The root of the blue flag is strongly astringent, forming the basis of several nostrums in high repute among country folk.

The pretty name, *Iris*, is that of the attendant of Juno who personified the rainbow. The wealth of color displayed by these flowers well merits the name. They are veritable rainbows of the earth. *Versicolor* means "of varied colors." So the generic and specific names express pretty much the same idea.

PLATE 4.

FLY-HONEYSUCKLE. LONICERA CILIATA. (HONEYSUCKLE FAMILY.)

*Shrub, branching with gray bark; leaves ovate, sometimes cordate, petioled, margins ciliate (fringed with hairs); flowers in twos on slender peduncles that spring from the axils of the leaves; corolla five-lobed, funnel-shaped, greenish-yellow in color; fruit a red berry.*



THIS pretty little shrub grows usually in damp, rocky woods. It is a northern plant, not occurring south of Pennsylvania and extending westward to Minnesota. The graceful twin flowers appear usually in May, before the leaves are quite developed. They are not unlike those of its cousins, the *Linnæa*, in their general form; but are considerably larger and of a different color. The corolla has a short spur at the base, projecting outward, giving the flower an attractively odd look. Each flower produces a light-red, egg-shaped berry, the flesh of which is watery and insipid. The two berries on the same stalk do not grow together as in some nearly related species.

The fly-honeysuckle, although closely related to the common woodbines and honeysuckles of the gardens, is quite different in general appearance and habit. A casual observer would hardly suspect the relationship. Even the flowers, with their wide-mouthed and almost regular corollas, do not, at first sight, seem to resemble the long, tubular flowers of the cultivated honeysuckles. The latter are, moreover, deeply and irregularly two-lipped.

*Lonicera* was named for Lonitzer or Lonicerus, one of the old German botanists. The specific name, *ciliata*, refers to the fringed margins of the leaves. Why the plant is called fly-honeysuckle is not apparent.





— 5 —  
*STACHYS PALUSTRIS.*  
 MARSH HEDGE-NETTLE.  
 JUNE.



— 6 —  
*SAPONARIA OFFICINALIS.*  
 BOUNCING BET.  
 JUNE—JULY.



PLATE 5.

MARSH HEDGE-NETTLE. STACHYS PALUSTRIS. (MINT FAMILY.)

*Perennial; stem erect from a creeping root stock four angled, hairy, one to three feet high; leaves sessile, rounded or sometimes subcordate at base, lanceolate or ovate-lanceolate; crenate or serrate, densely downy, pubescent; flowers in close verticils, the whole inflorescence spike-like; corolla deeply and widely two-lipped, rose-pink.*



ALTHOUGH a common plant in the old world, stachys palustris is not abundant with us, notwithstanding the fact that it occurs over a wide range of territory. It grows from Canada south to Pennsylvania, and westward. Hence it is a decidedly northern plant. It seems ever a-thirst, and so clings to the marshes and the moist woods. The rather showy flowers open in summer. The effect of the rose-red corollas in mass is quite pretty.

There are several species of stachys in North America. Of these, some of the southwestern species are much handsomer than the eastern ones. Stachys coccinea, a native of Arizona and Mexico, has flowers of a rich scarlet, hardly less vivid than those of the scarlet sage of the gardens. In Europe, the species of stachys are well-known plants of hedge-rows, fields and bogs. The "woundwort," stachys arvensis, a common species abroad, growing in cultivated fields, is beginning to make its appearance in some of our Eastern States. It is easily recognized by its decumbent stems.

These plants do not possess the essential oil which gives the aromatic odor characteristic of most of the mint family. Nor have they ever been turned to practical account, though the name "woundwort" would suggest medical properties. *Stachys* means "a spike," a name very appropriately applied to this genus; *palustris* signifies "growing in swamps." The popular name of "hedge-nettle" is doubtless derived from the nettle-like appearance of the leaves.

PLATE 6.

BOUNCING BET, SOAPWORT. SAPONARIA OFFICINALIS. (PINK FAMILY.)

*Smooth; stems erect or ascending from a perennial root, jointed; leaves ovate, obtuse or somewhat acute, sessile or very short-petioled, entire, with three principal veins; flowers in close fascicles, the lower on rather long axillary peduncles, the upper crowded; corolla pale pink or nearly white.*



DECIDEDLY a handsome plant, adventive from Europe. It prefers to make its home in shaded waste ground or roadsides, and spreads very rapidly in such situations. The deep green leaves and flowers of a dainty pink make a pretty combination. The blossoms have a delicate, agreeable odor that enhances the attractiveness of the plant. Were it not so common, the saponaria would be prized by gardeners. It is not an injurious weed, rarely taking possession of cultivated ground. It is certainly a more welcome addition to our waste-ground flora than many of its compatriots. The Bouncing Bet is spreading rapidly in the Eastern States. It was at one time much planted in gardens, which has aided it in establishing itself far and wide.

The pink family, to which the saponaria belongs, contains some of our most beautiful flowers and some of our most insignificant weeds. Among our native plants the catch-flies, with their flowers of brilliant scarlet, pink or white, are prodigal of charm.

*Saponaria* means soapy, so named because the juice of the plant forms a lather when mixed with water; *officinalis* indicates that the plant is used in medicine. It is the large acrid root that is officinal.





— 7 —  
 CALTHA PALUSTRIS.  
 MARSH MARIGOLD.  
 MAY.



— 8 —  
 CYNOGLOSSUM OFFICINALE.  
 HOUND'S TONGUE.  
 JUNE.



PLATE 7.

MARSH MARIGOLD. *CALTHA PALUSTRIS*. (CROWFOOT FAMILY.)

*Perennial, smooth; stems erect or ascending from a thickened rootstock, a foot or two high, branching; leaves bright green, rounded, cordate or reniform, usually dentate, the lower long-petioled, the upper nearly sessile, flowers yellow on long peduncles; petals wanting.*



MARSH-MARIGOLD is one of the brightest and most conspicuous of our early spring flowers. The golden-yellow blossoms are set off to great advantage by the rich green of the foliage, making the plant truly a thing of beauty. It makes its home in meadows and bogs, one of the first flowers to appear in such comparatively exposed situations. The early wild-flowers, for the most part, prefer the shelter of the woods.

The caltha is one of those plants found both in the old world and in the new. This not uncommon fact in geographical distribution, is accounted for on the theory that the land of the Arctic regions was once a single unbroken stretch between Asia and America.

The marsh marigold is a familiar plant in most parts of the Northern States. In the South, like most northern plants, it retires to the cool recesses of the mountains, to find there such a climate as it left at home. The tender leaves and shoots in early spring are sometimes eaten as "greens," more commonly in the old world.

*Caltha* is from a Greek word signifying a chalice or cup, very appropriate as descriptive of the pretty, cup-shaped-flowers; *palustris* means "growing in marshes." The plant is sometimes called "cowslips," but this name belongs properly to a European species of primrose.

The marigold's home, often in the mantled swamp, has little of welcome. Hence, rather than from any quality in the blossom itself, the marigold in the language of flowers denotes pain, chagrin. The marsh marigold is Shakespeare's "Mary-bud."

PLATE 8.

HOUND'S TONGUE. *CYNOGLOSSUM OFFICINALE*. (BORAGE FAMILY.)

*Stem erect, two or three feet high, branching above, soft, hairy; leaves ovate-lanceolate, the lower petioled, the upper sessile, sometimes subcordate at base, hairy; flowers in panicle racemes; corolla red, funnel-shaped, not very conspicuous; fruit consisting of four nutlets covered with short hooked prickles.*



HIS plant greets us in roadsides and pastures. It is usually denominated a weed, because as yet we have not been able to find out what it is good for; we are sometimes tempted to give it a worse name than weed when we return from a walk to find our clothes covered with its burr-like fruit. These burrs sometimes give trouble by clinging to the fleece of sheep. But if we are willing to overlook this annoying propensity we shall find some redeeming traits in the hound's tongue.

The contrast between its velvety, dark-green leaves and crimson flowers is refreshing to the eye, and tempts one to the gathering. The flowers, says Darlington, are "sometimes milk-white." The odor of the plant is decidedly peculiar. To most people it is rather disagreeable. It has been compared, with exaggeration, to that of the nests of mice.

The hound's-tongue is pretty well naturalized in eastern North America. It is not found far from human habitations, its proclivities being evidently domestic. The blossoms open in June and July.

*Cynoglossum* is the exact equivalent of the popular name—dog's tongue. The leaves are supposed to bear some resemblance to the tongue of a dog.



PLATE 9.

BLUE VERVAIN. VERBENA HASTATA. (VERBENA FAMILY.)

*Plant more or less hairy; stem erect, tall, sometimes six feet high; leaves petioled, sharply serrate, ovate-lanceolate or lanceolate, acute, at both ends, sometimes hastate at base, with conspicuous veins; flowers small in dense, paniced spikes; corolla deep-blue, salver-shaped.*



WITH its tall, upright stems and spikes of dark violet-blue flowers, the blue vervain makes a goodly show among the more humble weeds of wayside or bottom-land. The individual flowers are quite small and inconspicuous; but, growing in close clusters, their rich color is very effective. The leaves, however, are coarse and "weedy" looking. They suggest with unpleasant force, those of a near relative, the unsightly white or nettle-leaved vervain, which usually grows with the blue.

That these plants are first cousins of the large-flowered, many-colored verbenas of our gardens, seems impossible. Yet, if we place the flower of the blue vervain beside that of the cultivated verbena and compare them closely, the family resemblance peeps out beneath all the magic disguise wrought by the gardener's skill.

The blue vervain is a common plant in roadsides and fence corners, and on the low, sandy banks of rivers. It is found over the greater part of the Eastern States, flowering in midsummer.

*Verbena* is an ancient name for a sacred plant, of no apparent application to this genus. An old name for *verbena hastata*, "Simpler's Joy," suggests that the "herb doctors" find virtue in it.

In the language of flowers, the vervain signifies "enchantment."

PLATE 10.

CONE-FLOWER. RUDBECKIA HIRTA. (SUNFLOWER FAMILY.)

*Whole plant hairy; stem erect, usually branching, one or two feet high; leaves ovate to lanceolate, the lower on petioles, the upper sessile; flowers in rather large, terminal heads; ray flowers ligulate, bright orange-yellow; disk, dark purplish-brown.*



ONE-FLOWER, or "nigger head," as the children call it in the West, is one of the showiest of our summer wild flowers. The large heads, with their bright colored rays (the outer row of strap-shaped flowers) in strong contrast with the almost black flowers of the disk, are very attractive and striking. Like all the sunflower family, the cluster or head of flowers resembles a single flower. The unobservant usually take the rays for petals, and the disk flowers for stamens and pistils.

The cone-flower grows in dry fields. It would be difficult to imagine a more brilliant sight than a field in June or July covered with these flowers. Apart from the blossom, the plant is not attractive. The stem and leaves are quite rough to the touch, being covered with stiff hairs, which give the plant a hoary appearance. The manner of growth is ungraceful. But most of us are willing to overlook these deficiencies, in view of the beauty of the heads. For these alone the plant is worthy of cultivation, and would be effective in mass.

*Rudbeckia* was named by Linnaeus for Rudbeck, who preceded him as professor of botany at Upsala, in Sweden. The specific name *hirta* alludes to the hairiness of the plant. The popular name, cone-flower, is due to the cone-shaped disk of some of its species.





— 9 —  
 VERBENA HASTATA.  
 BLUE VERVAIN.  
 JULY.



— 10 —  
 RUDBECKIA HIRTA.  
 CONE-FLOWER.  
 JULY.



PLATE II.

YELLOW FLAG. IRIS PSEUDACORUS. (IRIS FAMILY.)

*From a deep and thickened rootstock; stem erect, two feet high; lower leaves swordshaped, very long and erect, glaucous, the stem leaves shorter; flowers two or three at summit of stem, yellow, outer segments of the perianth spreading, the inner erect. Perennial.*



ONE of the handsomest of bog plants. We are glad to note that it is becoming naturalized in America. It was reported long ago from some of the Eastern States, and is well established in the North. It has doubtless spread as an assisted immigrant from gardens into the neighboring marshes and ditches. It prefers a heavy clay soil in which the thick rootstocks imbed themselves, so that it is a difficult matter to pull them up. It is sometimes almost aquatic, the lower part of the plant being occasionally under water. The leaves are very long and rigid. The large, bright yellow flowers are singularly attractive, contrasting well with the more common blue flags. The rootstocks, like those of the blue flag, are used in medicine. They much resemble those of *acorus calamus*, whence the specific name, *pseudacorus*—false *acorus*.

One of the showiest of the numerous European species of iris, *iris germanica*, the common flag of gardens, is naturalized in Virginia. An odd species is a small woodland plant in England—the “roast beef plant.” It has rather inconspicuous, dull purple or yellowish flowers. Its most striking peculiarity is its odor, suggesting that of roast beef.

PLATE 12.

CANADA MINT. MENTHA CANADENSIS. (MINT FAMILY.)

*Perennial, hairy or almost smooth; stems decumbent or nearly erect, four angled, leaves opposite, ovate-lanceolate, the lower on long, slender petioles, the uppermost nearly sessile, acute at each end, serrate, thin; flowers in dense, axillary clusters, small, white labiate.*



ALTHOUGH several kinds of mint have been imported from Europe into this country, we have but one native species in eastern North America, the Canada mint. This is not a decidedly showy plant, although the dark green foliage and the clusters of tiny white flowers are rather pleasing. The very hairy form is less attractive, having a grayish aspect. It has not the warm, aromatic fragrance of the peppermint and the spearmint. Gray compares the odor of the ordinary form to that of pennyroyal, likening the odor of the smooth variety to the horsemint, *monarda*.

Nearly all the members of the mint family have little glands on the leaves, in which is secreted a volatile oil. To this oil is due the strong and often delightful odor characteristic of these plants. Every one is familiar with the spicy peppermint, the aromatic sage, the fragrant thyme, the lemon-scented balm—and, among our own native plants, the peculiar perfumes of the horsemint, the dittany and the American pennyroyal. Perhaps no other single family of plants furnishes such a variety of odors.

The Canada mint grows in low ground, especially near the banks of rivers. It flowers in August and September. The stems usually lie on the grounds, rising at the ends.

The name *mentha* is of mythological origin. According to the fable, a nymph was transformed by Proserpine, the wife of Pluto, into the plant that now bears her name.





— 11 —  
 IRIS PSEUDACORUS.  
 YELLOW FLAG.  
 JUNE.



— 12 —  
 MENTHA CANADENSIS.  
 CANADA MINT.  
 JULY.

PLATE 13.

CHICORY. CICHORIUM INTYBUS. (SUNFLOWER FAMILY.)

*Perennial, somewhat hairy; root long, thickened; stem erect, much branched, channeled; lower leaves almost divided, long petioled, upper sessile, clasping, toothed, uppermost very small; heads arranged along the sides of the branches, sessile, rather large, with a double involucre; flowers all ligulate, blue.*



THE chicory is one of the many plants that have come to us from Europe. The number of these waifs that find, first a footing, then a home and often a kingdom on our shores, is always increasing. Some are not unwelcome guests, but the greater part are our most troublesome and most persistent weeds. The rapidity with which such European plants as the common thistle, the dog-fennel, the pigweed and the purslane drive out our native plants and take possession of fields and waysides, would indicate that they have some advantage over ours in the struggle for existence. Such is indeed the case. The old world plants are favored because they leave their insect or other enemies behind them, when they cross the ocean. Ours have always their wonted drawbacks to contend with while engaged in an unequal fight with the invaders.

Thus the chicory has made itself a familiar object in waste places and at roadsides, often proving itself a most undesirable addition to our flora. It is well naturalized in the Northeastern States, but is yet rare in the South. The heads of pretty, azure-blue flowers open successively during the greater part of summer and autumn, "to match the sky," sings Emerson.

The name Cichorium is of Arabic origin.

PLATE 14.

PINK OR STEMLESS LADY'S SLIPPER. MOCCASIN FLOWER. CYPRIPIEDUM ACAULE. (ORCHIS FAMILY.)

*Perennial; roots fibrous, thickened, springing from a short, thick rootstock; leaves large, ovate, many-nerved, pubescent, sheathing the base of the leafless flower-stalk, which is sometimes a foot high; flower solitary, large, subtended by a leaf-like bract; lip pink, petals and sepals brownish.*



W EIRDLY beautiful, this plant is becoming alarmingly rare in settled neighborhoods. Like its cousin, the yellow lady's slipper, it is too shy a plant to thrive near the haunts of men. In the shades of primitive forests, in deep mountain ravines, where the traffic and turmoil of the world are as yet afar, it finds a fit setting for its wild grace and loveliness. Something in common has the moccasin-flower with the Indian who once shared its haunts—something of his spirit of freedom, all his love of exclusion. On the score of beauty, few of our native plants may compare with this. The large flower, nodding at the summit of its stalk, its rose-pink lip, veined with deeper red, is seen but once to be remembered always. The lip is not outstretched as in the yellow lady's slipper, but droops languidly on its stem. There is a cleft down the middle, for all the world as if it had been slit with a knife making it two-lipped lengthwise.

The pink moccasin-flower grows from Canada southward in the mountains to North Carolina. It flowers in May and June. The specific name, *acaule*, alludes to the apparently stemless habit of the plant. It would seem more appropriate to call this forest plant "moccasin-flower," than "lady's slipper."





— 13 —  
CICHORIUM INTYBUS.  
CHICORY OR SUCCORY.  
JUNE.



— 14 —  
CYPRIPEDIUM ACAULE.  
STEMLESS LADY'S SLIPPER.  
MAY.

PLATE 15.

WILD GINGER. ASARUM CANADENSE. (BIRTHWORT FAMILY.)

*Perennial, pubescent; acaulescent, the leaf-stalks arising from a long, creeping, thickened rootstock; leaves long-petioled, broadly and deeply reniform, veiny, velvety-pubescent; flower on a long, slender peduncle in the axil of the lower leaf, apetalous; calyx brownish, three-lobed, the lobes spreading, acute.*



ONE of our best-known wild flowers; odd looking little herb though it be, every country child is familiar with the "little brown jugs," and knows where to look for them. If we are not acquainted with the habit of the plant, we notice the handsome, dark green, velvety leaves, and wonder why no flowers appear. But if we know the secret, we scrape away the dried forest leaves about the roots. There, hidden carefully away, are the queer little flowers. What a strange habit! Most plants push their flowers up into the light, as if wishing to exhibit them, and engage admiration for their beauty. But the wild ginger coyly conceals its blossoms, and reveals them only to those who know where to look.

When found, the flowers are well worth the search. Apart from its oddity, the calyx is prettily formed and colored. The lobes are yellowish or light brown, spotted with brownish-purple and brown at the base. They spread out widely, so that the peculiar arrangement of the parts within may be seen at a glance.

The wild ginger is common in woods in the Northern States, and in the mountains southward. It flowers in April and May. The meaning of the name *Asarum* is obscure. Our plant is called wild ginger because of its spicy, aromatic rootstock, sometimes used in the healing art.

PLATE 16.

MONKEY FLOWER. MIMULUS RINGENS. (FIGWORT FAMILY.)

*Perennial; stems erect or ascending from a thickened, creeping rootstock, smooth, four-angled, usually branching; leaves oblong-lanceolate, sessile, heart-shaped at base, acute, serrate; flowers on long axillary peduncles; corolla bilabiate, the throat closed by a palate, lilac or violet in color.*



MONKEY-FLOWER is a well-known plant of marshes and ditches in midsummer, flowering up to the beginning of autumn. The showy blossoms range in color from a delicate lilac or even, occasionally, pure white, to a deep violet. There is a dash of yellow on the palate that contrasts well with the prevailing shades of purple and blue. The flowers are set off to advantage by the rather dark green leaves, making the effect of the whole plant highly attractive and ornamental.

The odd corolla justifies the name. It is two-lipped, the throat being almost closed by the palate. The look of the flower is by no means unlike that of the grinning face of a monkey. There is something intelligent, almost, one might fancy, an expression of mockery about it.

The species of *mimulus*, nearly all North American, are especially abundant in California and Oregon. The flowers are almost always beautiful, and afford every conceivable variety of color—yellows, reds, purples and what not. One yellow-flowered species of our Pacific Coast, *Mimulus luteus*, has been imported into Europe, and not uncommonly decks the brooksides of England.

*Mimulus* is the Latin for "a little buffoon"; *ringens* means "showing the teeth."





— 15 —  
 ASARUM CANADENSE.  
 WILD GINGER.  
 MAY.



— 16 —  
 MIMULUS RINGENS.  
 MONKEY FLOWER.  
 JULY—AUGUST.

## THE PARTS OF PLANTS AND WHAT THEY ARE CALLED.



NO. 1. FIBROUS ROOT.



NO. 2. FLESHY ROOT.



NO. 3. AERIAL ROOTS.



NO. 4. ROOTSTOCK.



NO. 5. TUBER.



NO. 6. CORM.



THE *flower* or *blossom* and the *fruit* and *seeds* to which it gives rise, are the *Organs of Reproduction*. The rest of the plant, the *Root*, *Stem* and *Leaves* are the *Organs of Vegetation*.

The root is that portion of the plant which grows down into the ground. Its function is to absorb moisture from the soil. Roots are either *fibrous* (1), that is slender; or *fleshy* (2), thickened. They are classed according to the length of time they live as *annual*, *biennial* and *perennial* roots. These terms are more commonly applied to the plant as a whole.

An *annual* plant gets its full growth, produces flowers and fruit and dies, in the same season. A *biennial* lives through two seasons. The first season is spent in the growth of root, stem and leaves. No flowers are produced. In order to provide for the next season, a quantity of food matter, starch and other substances, is stored in some part of the plant, usually in the root. This becomes thick and fleshy. Next season the flower-bearing stalk shoots up vigorously, seeds are produced, and the plant dies. A *perennial* plant lives through more than two seasons. All trees and shrubs and a great number of herbs are perennials.

Roots sometimes perform other functions than the absorption of moisture. In some woody-climbers, like the poison-ivy, short fine roots growing from the sides of the stem, act as holdfasts, enabling the plant to ascend a support. Such roots, being produced in the open air, are called *aerial roots* (3).

A large class of plants called *epiphytes*, have only aerial roots. They grow usually on the branches or in the forks of trees, and have no connection with the ground. The weird hanging-moss, that makes twilight of noon-day in the forests of our Southern States, is an epiphyte. So are many tropical members of the great Orchis Family. We are all familiar with the beautiful Dendrobiums and other orchids which are grown in our hothouses, on pieces of wood with a bit of sphagnum about the roots.

Then there are the *parasitic plants*, whose roots strike into the stems or roots of other plants, drawing nourishment from them. Such is the mistletoe, parasitic on certain trees; the dodder, which climbs the stems of clover and other plants, and strikes its sucker-like roots into them; and the beechdrop, whose roots attach themselves to those of the beech.

While the root grows down into the soil, the *stem* grows upward toward the light and air. It bears leaves which the root does not. Stems may be *arboreous* (trees), that is, woody, with a main trunk; *shrubby*, woody, but branching from near the base; or *herbaceous*, not woody. When the stem is so short as to be almost or quite concealed underground, the plant is termed *acaulescent*.

According to the manner in which they grow, stems are described as *erect*, growing up vertically; *assurgent*, rising obliquely; *decumbent*, resting on the ground but rising at the end; *procumbent*, lying flat on the ground; *creeping*, trailing on the ground and rooting at the joints.

Stems, like roots, are sometimes modified for special purposes. Many perennial plants have short and thick underground stems, which serve as storage-places for the food-supply laid up by the thrifty plant for next season's



NO. 7. BULB.



NO. 8. STIPULES.



NO. 9. NET VEINED.



NO. 10. PARALLEL VEINED.



NO. 11. LINEAR LEAF.



NO. 12. LANCEOLATE.





NO. 13. OVATE.



NO. 14. ORBICULAR.  
(Peltate.)



NO. 15. SPATULATE.



NO. 16. FEATHER VEINED.



NO. 17. ACUTE.



NO. 18. OBCORDATE.

growth. Though usually taken for roots, such structures are shown to be stems, by their bearing scales, answering to leaves. The *rootstock* (4) is a thickened underground stem several times longer than broad. The *tuber* (5) is a rootstock thickened at one end, as in the edible so-called "roots" of the Irish potato. The *corm* (6) is a compact and rounded rootstock. The *bulb* (7) is a corm, the greater part of which is made up of fleshy scales.

Stems have two principal ways of *climbing*, by twining bodily around the supporting object; or by the aid of *tendrils*, modified branches or leaves which serve as holdfasts, as in the Virginia Creeper.

*Thorns* are modified branches. They are doubtless designed to protect the plant against animals that would strip it of its bark or leaves, if undefended.

*Leaves* are appendages of the stem, which serve as the digestive organs of the plant. They assimilate the crude sap of the plant into material for building up its tissues. Leaves are arranged on the stem in two principal ways. They are *alternate*, when there is but one at each joint; and *whorled*, when there are more than one. When the whorl consists of but two leaves, they are said to be *opposite*.

The large usually flat part of the leaf is called the *blade*. The stalk which bears the blade is the *petiole*. The two small blade-like bodies at the base of the petiole are the *stipules* (8). When the petiole is wanting, the blade is *sessile*. The stipules are often absent or inconspicuous.

There are two principal modes of *veining* in leaves. When the veins branch again and again, and the branches run together so as to form a network or mesh, the leaf is *net-veined* (9). When the veins run side by side without seeming to branch or run together, the leaf is *parallel-veined* (10). Net-veined leaves are *feather-veined* (16) when the secondary veins start from a principal vein running through the centre of the leaf from base to apex, the *midrib*. They are *palmately-veined* (9) when several veins of about equal size start together from the base of the leaf and run out toward the margin like radii of a circle.

There is great diversity in the general outline of leaves. Some of the more common forms are: *Linear*, comparatively narrow and of about the same width from one end to the other (11); *oblong*, of same outline, but broader; *lanceolate*, narrow but broader at base and tapering toward the apex (12); *elliptical*, oblong or linear, but narrowed at both ends; *ovate*, egg-shaped, broader at base and narrowed toward apex (13); *orbicular*, rounded or circular in outline (14); *oblanceolate*, lanceolate reversed, that is, broader at apex and tapering toward base; *spatulate*, oblanceolate, with the narrowing toward the base more abrupt (15); *obovate*, the reverse of ovate (16).

The apex of the leaf may be *acuminate*, tapering into a point (12); *acute*, more abruptly pointed (17); *obtuse*, not pointed, rounded (13); *truncate*, as if cut off; *emarginate*, with an indentation in the margin corresponding to the end of the midrib (18); *obcordate*, with the indentation deeper.

The first four terms apply as well to the base of the leaf. Other terms used in describing the base are: *cordate* or *heart-shaped*, the two sides of the leaf coming upward so as to leave a notch at the base (19); *reniform*, with a deeper and more rounded indentation or sinus (9); *auriculate*, with the two sides of the leaf prolonged at base into rounded lobes or ears (20); *sagittate*, with these lobes acute and pointing downward (21), *hastate*, with the lobes acute and pointing outward (17); *peltate*, when the lobes are grown together, so that the petiole seems attached to the middle of the leaf (14); *perfoliate*, when the leaf is sessile on the stem and the base has grown around



NO. 19. CORDATE.



NO. 20. AURICULATE.



NO. 21. SAGITTATE.



NO. 22. PERFOLIATE.



NO. 23. UNDULATE AND  
SINUATE.



NO. 24. SERRATE.





NO. 25. DENTATE.



NO. 26. CRENATE.



NO. 27. INCISED OR JAGGED.



NO. 28. LOBED.



NO. 29. DIVIDED.



NO. 30. COMPOUND LEAVES OR LEAFLETS.

it (22) so that the stem appears to pass through the leaf; or, when two opposite sessile leaves have their bases grown together, as in the Tinker's Weed.

The *margin* of the leaf may be *entire*, forming an unbroken line (10); *undulate* or wavy; *sinnuate*, more deeply wavy (23); *serrate*, with short, sharp teeth, pointing upward or inward (24); *dentate*, with teeth blunt and pointing outward (25); *crenate*, with rounded teeth (26). When these breaks in the margin extend deeper into the blade, the leaf becomes *incised*, with coarse jagged teeth (27); *lobed*, with incisions deeper but not extending more than half way from margin to mid-rib (28); *cleft*, when the incisions extend more than half way; and *divided*, when the incisions reach the mid-rib (29).

*Compound leaves* have the blade split up into separate parts or *leaflets* (30). When the leaflets are arranged like the veins in a feather-veined leaf, the leaf is *pinnate* (30). When arranged like the veins in a palmately-veined leaf, the leaf is *palmate* (31). The divisions of a compound leaf may be further divided, so as to make the leaf twice compound, or three times, or even more.

Special forms of leaves serving other functions than those of vegetation are sometimes met with. Sometimes the end leaflet of a pinnate leaf is changed into a *tendrill* to aid the plant in climbing (30). The fleshy scales of *bulbs* (7) in which food-matter is stored, are leaves. So are the thinner scales of *winter-buds*, occurring on most trees and shrubs.

The most extraordinary forms of leaves are those of the so-called *Insectivorous Plants*. Here the leaves are designed for the purpose of entrapping insects and assimilating them as food for the plant. A common example is the *Sarracenia Purpurea* or Side-saddle Flower. This has the margin of the leaf folded together so as to form a "pitcher," closed at the bottom, open at the top (32). In some southern *Sarracenias* the tip of the blade curves over so as to form a lid for the pitcher. The pitcher contains a sticky liquid, in which intruding insects are drowned.

In another group of insectivorous plants, represented with us by the little sundews of the bogs, there is a different preparation for a warm welcome to insect guests. The leaf is fringed with gland-tipped hairs, which may be likened to the tentacles of a cuttle-fish. When the unsuspecting insect alights on the leaf, the surface is irritated, causing the tentacles to bend in toward the middle. Thus the cause of the disturbance is imprisoned and the nourishing part of its body is digested by the leaf. Then the tentacles relax. That the insectivorous plant actually feeds on the insect which it captures was proved conclusively by Darwin. He showed that plants of this kind when furnished with insects grew more vigorously than when insects were prevented from reaching them.

*Inflorescence* is the manner of arrangement of flowers on the stem. Flowers are *solitary* or *clustered*. They may be borne on a special stalk, the *peduncle*, or they may be *sessile*, growing on the stem without any such stalk. When flowers are in clusters, the stalk bearing the whole cluster is the *peduncle*, while the stalk bearing each individual flower is the *pedicel*. The small leaves growing on peduncles or pedicels, or on the main stem among the flowers, are called *bracts*. They are usually smaller than ordinary foliage leaves, and often scale-like.

The principal sorts of flower clusters are: the *raceme*, consisting of a stalk or axis bearing pediceled flowers, forming a cluster usually considerably longer than broad (33); the *spike*, a raceme with sessile flowers (34); the *corymb*, a raceme with flowers on pedicels of different lengths, but all reaching to about the same level (35); the



NO. 31. PALMATE.



NO. 32. INSECTIVOROUS.



NO. 33. RACEME.



NO. 34. SPIKE.



NO. 35. CORYMB.



NO. 36. UMBEL.





NO. 37. A HEAD.  
(The Head.)



NO. 38. CYME.



NO. 39. COMPLETE FLOWER.  
(4 parts.)



NO. 40. STAMEN.



NO. 41. PISTIL.



NO. 42. IRREGULAR.

*umbel*, a corymb with pedicels all of the same length (36). The *head* a corymb with pedicels very short or wanting (37); the *cyme*, differing from the corymb in that its uppermost and therefore innermost flowers are the first to open (38).

The complete flower consists of four sets of parts—the *sepals* (39d), the *petals* (39c), the *stamens* (39a), and the *pistils* (39b). The sepals, taken together, are termed the *calyx*. The petals, together, make up the *corolla*. The calyx and corolla together are termed the *floral envelope*, while the stamens and pistils are the *essential organs* of the flower. The calyx, or outer row of floral leaves, is usually green, but not always. The corolla, or inner row of floral leaves, is usually delicate in texture and of some other color than green. When the petals are grown together the corolla is *gamopetalous*. When there is no sharp distinction between calyx and corolla, as in the tulip or the lily, the floral envelope is termed the *perianth*.

The *stamen* (40) consists of a stalk or *filament* bearing a two-celled box, the *anther*, which holds the *pollen*. Pollen is the substance which looks, to the unaided eye, like fine yellow dust. The *pistil* (41) consists of the *ovary* or receptacle in which the *ovules* or undeveloped seeds are contained, surmounted by the *style*, a usually slender stalk, which is dilated at the summit into the *stigma*. The stigma is the flat or rounded body on which the pollen falls. Each tiny pollen grain, when it alights on the stigma, sends out a minute tube which runs down through the style into the ovary. When the tube reaches an ovule, the process known as *fertilization* takes place. The nature of the process is not understood. The result is that the ovules develop into *seeds* from which new plants may arise, while the ovary enlarges into the *fruit*. The term fruit is applied by the botanist, not merely to the edible kinds, like strawberries, but to every structure which contains the seeds. The balls that are borne on the "sycamore" or button-wood tree, are as truly fruit as is the peach.

A flower which has both stamens and pistils is *perfect*. If it has only stamens it is *staminate*. If only pistils, it is *pistillate*. When a flower has all the members of one set of parts, *e. g.*, all the stamens or all the petals alike, it is said to be *regular*. Otherwise it is *irregular*. Most *irregular flowers* have the parts arranged so as to aid in *cross-fertilization* by means of insects, as the flowers of the Orchids and of the Pea Family.

Cross-fertilization is the carrying of pollen, by the aid of insects, from one flower to the stigma of another, on the same plant or on a different plant of the same kind. The insect visits the flower in search of nectar or honey. He brushes against the anther and some of the pollen falls upon him. This he carries to the next flower visited and deposits it on the stigma. It is undoubtedly an advantage to plants to have their flowers cross-fertilized, rather than to have the stigma receive pollen from the anthers of the same flower. Why, we do not know. The orchids, to which our lady's-slipper and meadow-pink belong, often have elaborate contrivances for aiding insect-friends to accomplish their useful task. Their flowers are always irregular (42).

The *gamopetalous corolla* has several special forms. These are: *rotate* or *wheel-shaped*, flat, and with hardly any contracted part or *tube* (43); *salver-formed*, with a *limb* or border spreading out at right-angles to the tube (44); *bell-shaped*, with the tube open and widening toward the summit, and with no distinct limb (45); *funnel-shaped*, with a narrow tube and comparatively wide limb, like an ordinary funnel (46); *tubular*, with a narrow tube, not widening toward the summit, and no distinct limb; *labiate*, two-lipped, as in the Mint Family (47); *ligulate*, strap-shaped, as in the Chicory and most of the Sunflower Family (48).



NO. 43. ROTATE OR WHEEL SHAPED.



NO. 44. SALVER FORMED.



NO. 45. BELL SHAPED.



NO. 46. FUNNEL SHAPED.



NO. 47. TUBULAR.



NO. 48. LIGULATE.



## FUTURE NUMBERS.

**F**UTURE numbers of this publication will surprise a vast majority of the people of America by bringing home to them the fact that this country has the loveliest wild flowers in the world. The entire work will have a fascination for people of all ages, but no circumstances should prevent its getting to the school children and young people whose school days are over, but whose education in a sense is just beginning. The eminent teachers in our universities who have seen the advance sheets say, with much warmth, that it ought to prove one of the most useful as it is sure to be one of the most pleasing educational agencies of the century, and should have a national circulation. Later in the progress of the work there will be given in some of the numbers, without extra cost, several interesting chapters on "Curious Facts about Plants and Flowers," to be used in binding the volumes.

The mind is made king over a new realm when one has some knowledge of the wild flowers of this continent. Every glimpse of country brings one among a host of friends; every drive along the road, however tedious or dusty, is made delightful by the array of beauties which nod kind greetings, as children smile up into the faces of strangers in whose aspect they read an affectionate nature. If, instead of merely passing through the country, he takes to rambles in field and glade, there again the lover of flowers is never lonely, never wearied. At every step his trained eye falls with delight upon some favorite, while his knowledge of its habits makes an interest for him in the most inconspicuous or most common plant. The mosses and ferns, once in bygone ages giants in the land, inspire us with keener interest, while the humble mare's tail, uplifting its sharp spear, reminds us of its noble ancestry whose huge bulk swayed in the moist warm air of the carboniferous period, when grotesque plants sprang up and died, forest after forest, leaving to man the fossil sunbeams which to-day as coal drive the loom, the ocean greyhound, and the locomotive.

A very superficial acquaintance with the history of plants will be to us what the genii were to Aladdin. Let us but rub the lamp of knowledge and lo, before us appears this or that wonderful picture of ages long past! The summit of some cloud-shouldering mountain, such as Mount Washington, where plants are to be found that now bloom nowhere but in the frozen north, will speak to us of an age when the continent was over-run with rivers of ice and harbored none but boreal flowers. Cut off long since from retreat by the warmth of the valleys and the luxuriance of other species, these remnants of a once glorious army now stand at bay on inaccessible heights amid the clouds and crags, toward which, with ineffectual ardor, less hardy blossoms press, only to be dwarfed and hurled back vanquished, while over silent abysses to whose summit the murmur of rushing torrents scarcely ascends, hangs many a dainty yet stubborn plant to beckon on the mountaineer, into whose wondering ears, if he will but stop to listen, it could pour a tale more strange than any of fairy land.

And even though we do not permit our minds to wander back to aeons now forgotten, yet under our very eyes are plants whose characteristics, either of appearance or habit, are sufficient to fill us with astonishment and delight. Now it is the huntsman's cup or pitcher plant, which we encounter in some marsh or swamp, embowered in sylvan solitudes, and within whose vase-like leaves the summer rains are gathered and thoughtless insects lured to death. Now it is the Venus' fly trap, which rivals the spider in its skill. Anon it is the Indian pipe, whose waxen clusters, springing from one root almost startle us in some shy retreat, or the jack-in-the-pulpit preaching in the wilderness under its canopy of satin. Everywhere we may note a wonderful or amusing mimicry of divers objects, the strange impressions upon the root of the Solomon's Seal, which give it its name, the slender adder's tongue which projects between two mottled, snake-like leaves, the arrow-head whose leaves, in shape, rival the barbed weapon of antiquity, and as illustrating two articles of dress, —the elegant lady's slipper and the quaint Dutchman's breeches.

"The world is too much with us," says Wordsworth, in one of his incomparable sonnets. The wear and tear, the fret, the baffled ambitions, the trials, and the sorrow of ideals unrealized and idols proved unworthy of respect, these make man old before his time, and for this there is no physician's balm. In vain we ask, "Canst thou minister to a mind diseased?"—and yet on every hand nature offers the soothing ointment, and it is the fault of our training, our sightless open eyes which prevent us from accepting the cure which comes straight from the hand of the Great Physician. There is not a flower that grows which has not its lesson of patience and hope to teach. There is not one which does not present to us a view of the Creator and His creatures that will lead to spiritual exaltation, humility and brotherly love. The laws of nature are the thoughts of God, says Oersted, and Tennyson cries, in the same spirit:

"Flower in the crannied wall  
I pluck you out of your crannies—  
Hold you here, root and all, in my hand,  
Little flower, but if I could understand  
What you are, root and all, and all in all,  
I should know what God and man is."

Let us, then, learn that there exists on every hand not merely half a dozen or a dozen, but hundreds of beautiful flowers under our eyes, uplifting their sweet faces to us, alluring us with their odors and promising to those who so much as recognize their existence a new interest, a new charm, in every bit of field or sandy tract of land, in every swamp and wood, along the dreary roads, among the rugged crags from one end of America to the other.





